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Connections between academic burnout, resilience, and psychological well-being in nursing students: a longitudinal study

Running Head: BURNOUT, RESILIENCE AND WELL-BEING IN NURSING STUDENTS

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ABSTRACT

Aims: the aim of this study was to explore the longitudinal associations between academic burnout and resilience and psychological well-being, as well as the stability of these variables in a sample of university nursing students.

Background: nursing students frequently suffer academic burnout, which is brought on by different situations experienced during the training process and that can concern his psychological well-being. Resilience is a personal resource that allows adverse situations to be handled in a successful way.

Design: longitudinal design.

Methods: data were collected at two moments separated by 18 months (2014-2016), with 218 students at T1 and 113 at T2. At each time a questionnaire was given to them, with questions about socio-economic demographics and three validated scales to measure academic burnout, resilience and psychological well-being.

Results: the three dimensions that make up academic burnout remained steady over time, while resilience increased and psychological well-being improved. Hierarchical regression analyses revealed the longitudinal effect of emotional exhaustion at T1 and at T2 they showed the longitudinal effect of resilience on psychological well-being at T2. The inverse hierarchical regression analyses did not reveal significant relationships for any of the variables measured at T2 in connection with psychological well-being measured at T1.

Conclusions: emotional exhaustion was the most relevant dimension of academic burnout when predicting psychological well-being in the analysed sample. Moreover, resilience has an important positive effect on psychological well-being in the analysed

sample. The practical implications of the results are discussed from the perspective of academic training and some recommendations are given for future research in this field.

Key words: burnout, longitudinal study, mental well-being, nursing students, resilience.

SUMMARY STATEMENT

Why is this research or review needed?

- Few studies have investigated academic burnout, resilience and psychological well-being in pre-professional nursing students using a longitudinal study.
- It is important to know which dimension of academic burnout is the most related to resilience and psychological distress.
- It is important to know if resilience, academic burnout and psychological well-being remain stable throughout students' academic careers without intervention in the educational curriculum.

What are the key findings?

- Academic burnout remained stable over time as resilience and psychological well-being increased.
- Emotional exhaustion is the most relevant dimension of academic burnout when predicting psychological well-being in the analysed sample of nursing students.
- The findings also lead us to conclude the importance of promoting and developing the positive psychological capacity of resilience and integrating it into the training of nursing students.

How should the findings be used to influence policy/practice/research/education?

- The results obtained show the need to include the learning of useful strategies for emotional control and management in the training curriculum.

- Resilience, although it increases over time naturally, is a positive psychological resource that should be strengthened in the training period because it can help students to better manage stress and prevent the appearance of psychological symptoms of distress.

INTRODUCTION

During their studies nursing students are exposed to numerous academic stressors (Pulido-Martos et al., 2012) that can lead to burnout (Fernández et al., 2005). Academic burnout is a frequent problem in nursing students across the world (Deary et al., 2003; Chang & Daly, 2012; Edwards et al., 2010). Different studies have pointed at negative outcomes as being a result of psychological discomfort derived from stressful academic situations in students (Klainin-Yobas et al., 2014; Yamashita et al., 2012). Academic burnout is also connected with a greater likelihood of dropping out of university or college (Deary et al., 2003). Furthermore, evidence shows that this kind of burnout originates in student life but can continue to develop during professional practice (Edwards et al., 2010; Reis et al., 2015). According to Chang and Dealy (2012), this is likely to lead to a decline in the size and calibre of the nursing workforce.

Resilience is a dynamic process that helps people adapt to adverse and stressful situations and is essential for maintaining psychological well-being. (Cope et al., 2015; Reyes et al., 2015). Thomas et al. (2012) indicate that the development of psychological resilience must be an essential part of the training of nursing students.

The purpose of this study was to better understand the problem of academic burnout through the analysis of its relationships with resilience and psychological well-being in a sample of university nursing students using a longitudinal design. The results of the longitudinal analysis of the relationships between these three variables will also help to adequately define the intervention measures that will improve the situation of the nursing community.

Background

Academic burnout arises in students with a raised degree of emotional exhaustion and cynicism together with low feelings of effectiveness related to their work in the academic field (Caballero, 2012; Schaufeli et al., 2002). The first symptom, emotional exhaustion, affects the personal sphere and refers to the feeling of being emotionally overstretched; the second, cynicism, is a more psychosocial phenomenon and is defined as a distant attitude towards academic activities and peers; finally, academic inefficacy affects the field of performance and involves the perception of oneself being incompetent or not doing academic tasks properly.

Bakker et al. (2001) proposed a theoretical model that can help to explain academic burnout. Overall, the job demands-resources model (JD-R model) suggests that high requirements and shortage of work related resources will lead to perceived stress. An important extension and improvement of the original model has been the inclusion of

personal resources to clarify the processes involved (Bakker & Demerouti, 2014). Personal resources are positive self-assessments connected with having perceived control and influence over the environment (Hobfoll et al., 2003). According to this extended model, people with elevated levels of individual means will exhibit a greater ability to prevent the adverse impacts of stressors than people with lower levels (Bakker et al., 2001). Due to this, when a student feels that the demands of their educational circumstances surpass their means and abilities, they will experience harmful consequences – for example, burnout – and detrimental effects on their well-being (Bakker & Demerouti, 2014).

One of the most studied personal resources in the last few years is psychological resilience, which is defined as the individual ability to cope with, overcome and be strengthened by adverse events (Masten, 2001; Rutter 2012). In summary, resilience is seen as a process through which a person adapts positively to stressful situations of any kind, promoting well-being behaviours (Cope et al., 2015; Reyes et al., 2015). Resilience has also been related to perseverance in terms of finishing courses of study and continuing into professional practice (Cope et al., 2015; Gray, 2012; Hodges et al., 2010; Manzano-García & Ayala-Calvo, 2012). Despite the above, a recent review by McGowan and Murray (2016) concluded that there is no great evidence that resilience is associated with lower academic burnout and higher academic performance among nursing students. In this context, therefore, more studies are necessary to reach more conclusive results to support the previous theoretical and empirical framework. In this study resilience is considered according to the definition of Luthans et al. (2006), i.e., as a personal capacity to handle setbacks, challenges and pressures in an effective way; simultaneously, it is viewed as a dynamic personal characteristic that can be developed,

contributing to the maintenance and improvement of physical and mental well-being (Martin et al., 2013).

The evolution of academic burnout in university students over the years that they study has been the object of analysis in various longitudinal studies; however, results have not been consistent. Thus, some studies have found that academic burnout becomes more intense in the final phase of an academic course (Alzayyat & Al-Gamal, 2014; López et al., 2013; Rudman & Gustavsson, 2012), while other studies have highlighted its stability (Deary et al., 2003). Regarding the connections between academic burnout, resilience and psychological well-being, research has revealed significant links between these variables (Arrogante, 2014; Mealer et al., 2012; Treglown et al., 2016; Zou et al., ¿2016).

Despite the evident importance of this topic and the need for research in this area, there have been few studies focusing on the connections between academic burnout, resilience and psychological well-being in university nursing students and fewer still have adopted a longitudinal design. Most studies use a cross-sectional design, which prevents them from analysing the effects of academic burnout and resilience on psychological well-being, as well as the evolution of these three variables over time (Edwards et al., 2010; Rudman & Gustavsson, 2012).

THE STUDY

Aims

The main aim of this study was to explore the longitudinal associations between academic burnout, resilience and psychological well-being in nursing students, as well as the stability over time of these variables. Three hypotheses were considered:

Hypothesis 1: The dimensions of academic burnout, resilience and psychological well-being will remain stable over time. That is, there will not be differences between these variables as measured at T1 and T2.

Hypothesis 2: Emotional exhaustion and cynicism (two dimensions of academic burnout) measured at T1 will be significantly related to psychological well-being at T2; that is, they will predict worse psychological well-being at T2. In addition, academic efficacy estimated at T1 will be significantly associated with psychological well-being at T2; that is, it will predict greater psychological well-being at T2.

Hypothesis 3: Resilience estimated at T1 will be significantly related to psychological well-being at T2; that is, resilience at T1 will predict greater psychological well-being at T2.

Design

A longitudinal design with two points of data collection in the second and fourth academic years, separated by an 18-month interval, was used over the period 2014–16. The reason for selecting the second and fourth academic years as measurement points was due to the duration of the degree itself (four years) and to the fact that students start their clinical practices in the second year. This gap enabled the assessment of possible changes in the variables under study (Boersma & Lindblom, 2009).

Participants

A class of nursing students at the University of Murcia, Spain, participated in the study. There were no exclusion criteria. A total of 218 valid questionnaires were collected at T1 and a total of 113 at T2. The final participation rate was 51.8 % (at T2

versus T1). The sample (at T2) had a mean age of 24.42 years old (SD 5.27; range = 21–46 years old) and a minority represented by men (24.8 %). Regarding marital status, 56.6 % were unmarried, 34.5 % had a partner and 8 % were married; 73.5 % of participants indicated that they were studying nursing full time and 23.9 % indicated that they also worked.

Data Collection

The questionnaires were distributed in person by members of the research team. All students participated voluntarily and under informed verbal consent; confidentiality and anonymity of the data were ensured. The questionnaires were coded at both time points (October 2014 and April 2016) with an anonymised identification number so that the comparative statistical analyses could be carried out.

Assessment tools

In this research, the Maslach Burnout Inventory Student Survey (MBI-SS) was used to measure burnout according to the translation to Spanish of Schaufeli et al., (2002). This scale, which determines the degree to which the students are 'burnt out' by their studies, combines 16 items: five items for emotional exhaustion (for instance: 'I am emotionally exhausted because I'm doing this degree'), five items for cynicism (for instance: 'I have become more cynical regarding the usefulness of my studies') and six items of academic efficacy (for instance: 'I believe that I contribute effectively during the lessons'). To indicate a range the answers used a 7-point Likert-type scale (from 0: never - 6: always).

To measure resilience in university students, the Connor-Davidson Resilience Scale (CD-RISC) of 10 items developed by Connor & Davidson (2003) in the Spanish version of Notario et al., (2011) was used. Each item (for instance, item 1: 'I consider myself strong and resistant') uses a 5-point Likert scale range (from 0: totally disagree - 4: totally agree).

To assess psychological well-being, we used the General Health Questionnaire (GHQ-12) by Goldberg and Williams (1988) in the Spanish adaptation of Sánchez-López and Dresch (2008). Composed of 12 items (for instance: 'Feeling unhappy and depressed'), it uses a 4-point Likert scale (from 0: not at all, to 3: much more than usual) from which an average was calculated; in this case it must be account for that higher marks show worse perceived well-being, that is, greater discomfort.

Ethical Considerations

Ethical rules for research and essential legal requirements for the development of this study were adhered to. The project was revised, approved and managed by the University of Murcia.

Data Analysis

Data analysis was statistically performed by IBM SPSS Statistics (SPSS, IBM Corp., Armonk, NY, USA) version 22.0. First, the analyses of internal consistency and reliability (test-retest) were performed, followed by probing for descriptive and bivariate correlations. Subsequently, comparisons of averages between the two measurement points were carried out to verify if there were any changes according to socioeconomic and demographic variables and to test the temporal persistence of the

main variables of the study. Finally, to analyse the longitudinal connections, several stepwise multiple hierarchical regression analyses were carried out.

Validity, reliability and rigour

Maslach Burnout Inventory Student Survey (MBI-SS)

In the present study, Cronbach's alpha was recorded twice. For academic burnout the following internal consistency coefficients (Cronbach's alpha) were recorded: for emotional exhaustion $\alpha = .85$ at T1 and $\alpha = .90$ at T2; for cynicism $\alpha = .86$ at T1 and $\alpha = .84$ at T2; and for academic efficacy $\alpha = .71$ at T1 and $\alpha = .80$ at T2. The test-retest reliability was $r = .38$ ($p < .001$) for the exhaustion subscale, $r = .34$ ($p < .001$) for the cynicism subscale and $r = .37$ ($p < .001$) for the academic efficacy subscale.

Connor-Davidson Resilience Scale (CD-RISC)

The internal consistency coefficients (Cronbach's alpha) were as follows: $\alpha = .86$ at T1 and $\alpha = .85$ at T2. The test-retest reliability was $r = .66$ ($p < .001$).

General Health Questionnaire (GHQ-12)

In this study the following internal consistency coefficients (Cronbach's alpha) were found: $\alpha =. 84$ at T1 and $\alpha = .89$ at T2, with a test-retest reliability of $r = .47$ ($p < .001$).

RESULTS

Table 1 shows the descriptive statistics and the longitudinal Pearson´s correlations of the main study variables. There were no temporal differences in any of the three dimensions of academic burnout. However, the comparison of averages indicated relevant differences between T1 and T2 for levels of resilience ($t = 6.81$, $p < .001$) and psychological well-being ($t = 2.36$, $p < .05$), indicating that student resilience increases, and their psychological well-being improves over time.

Significant negative longitudinal correlations were found between resilience at T1 and psychological well-being at T2 ($r = -.27$, $p < .001$), as well as between emotional exhaustion and cynicism at T1 and psychological well-being at T2 ($r = .40$, $p < .001$ and $r = .36$, $p < .001$, respectively). Academic efficacy at T1 was not associated with psychological well-being at T2. According to these results, higher resilience results in greater well-being and the more emotional exhaustion and cynicism are present the worse well-being is.

Third, stepwise hierarchical multiple regression analysis was done using psychological well-being at T2 as the outcome variable. First, the variance of the variables age and sex was controlled for, then psychological well-being at T1 was introduced as an outcome variable and finally, in a third step, the three dimensions of academic burnout and resilience were introduced. As shown in Table 2, the results indicate that emotional exhaustion at T1 is the only variable that predicts psychological well-being at T2 ($ß = .22$; $p < .05$).

Subsequently, new hierarchical multiple regression analyses were performed to analyse any inverse associations. The results (see Table 3) show that psychological well-being at T1 did not have a significant effect on emotional exhaustion, cynicism or academic efficacy at T2, or resilience at T2, which refutes the existence of a bidirectional relationship between the abocevariables. On the other hand, the data show that resilience levels at T2 were influenced by resilience at T1 (ß = .66, $p < .001$) and that emotional exhaustion, cynicism and academic efficacy at T2 were influenced by the results of emotional exhaustion (ß = .36, $p < .001$), cynicism (ß = .34, $p < .001$) and efficacy (ß = .40, $p < .001$) at T1, respectively.

Finally, a stepwise global hierarchical multiple regression analysis was conducted with the psychological well-being at T2 as the outcome variable, whereas emotional exhaustion, cynicism and efficacy and resilience at both T1 and T2 as explanatory variables, whilst controlling for the variables age and sex. As can be seen in Table 4, the variables of sex, emotional exhaustion at T1 and resilience at T2 explain 32% of the psychological well-being variance at T2, with resilience at T2 showing a greater predictive effect (21% of variance).

DISCUSSION

The central aim of this study was to explore the longitudinal associations between academic burnout, resilience and psychological heath as well as their stability in a sample of nursing students. The results of the study partially support the first hypothesis, as while the three dimensions of academic burnout remained steady – a finding that is consistent with those of Deary et al. (2003) – student resilience increased,

and students reported greater psychological well-being at T2. The data shown above may show, on the one hand, the chronic nature of burnout syndrome (Shirom, 2009) and, on the other hand, the natural evolution of resilience in response to different academic stressors as adverse situations encourage its development in students progressing through the years of their studies (Gray, 2012; López et al., 2013; Manzano-García & Ayala-Calvo, 2012).

The results of the regression analysis partially confirm the second hypothesis, as only emotional exhaustion at T1 had a negative and significant effect on the psychological well-being reported by students at T2 (worse well-being). On the other hand, the findings of the inverse hierarchical regression analyses lead to the conclusion that there is not a bidirectional longitudinal connection between the variables analysed. The third hypothesis was not confirmed, since resilience at T1 was not found to predict psychological well-being at T2.

The shortage of previous longitudinal research that simultaneously analyses the three variables included in this study makes the comparison of the obtained results difficult. It is noteworthy that although some studies focus on the variables considered here, they examine these separately, not together, nor in combination with aspects other than those taken into account here. For example, some previous longitudinal research has focused on analysing the associations between personality variables such as neuroticism or coping strategies with the presence of stress or academic burnout. These studies have concluded that students who score higher in neuroticism show higher levels of burnout (Fornés et al., 2012) and that coping strategies of avoidance are an important predictor of emotional exhaustion and cynicism (Alzayyat & Al-Gamal 2014, Gibbons, 2010).

According to the results of our study, resilience is an important positive resource, which has a positive effect on the psychological well-being of the students. On this topic, the longitudinal study by Pitt et al. (2014), concluded that it is a key personal capacity related to university studies.

From an applied perspective, the findings show a need to prevent emotional exhaustion, as this is the dimension of academic burnout that has been shown to have most influence on students' well-being. Various academic situations have been related to academic burnout, including an overload of academic tasks with limited time for their completion, examinations, public interventions, fear of unknown situations during clinical practice, methodological deficiencies of teachers and finance problems (Andrew et al., 2015; Rees et al., 2016). From an educational context, it would be advisable to adopt strategies that minimise such stressors, which frequently affect students during the course of their studies (Pulido-Martos et al., 2012).

We must link this strategy to training programmes dedicated to the development of resilience, as this is understood as a positive personal resource that enables students to cope with obstacles that may arise during their academic and professional careers (Rees et al., 2016; Rudman & Gustavsson, 2012; Thomas et al., 2012). In this sense, the few existing studies looking at curricular interventions have shown the beneficial effects of the promotion of resilience, affecting even training professionals (Waddell, et al., 2015).

Limitations

This study has two limitations that need to be discussed. Firstly, the collected data come entirely from self-report scales, which may lead to bias in the responses of the participants. Secondly, a longitudinal pattern has been used, which facilitates the analysis of the development of academic burnout, resilience and psychological well-being in students during their professional careers (Edwards et al., 2010; Rudman & Gustavsson, 2012). However, it was not possible to take more than two measurements. Further research should aim to employ not only extra complex statistical analyses but also employ designs to discover the interventional effect of resilience on the development and maintenance of academic burnout as well as on psychological well-being in university nursing students.

CONCLUSIONS

Resilience and emotional exhaustion were the most relevant variables in predicting psychological well-being in the analysed sample. Specifically, emotional exhaustion shows a clear and significant adverse effect on students' psychological well-being in this study, while resilience, which increases over time, has a beneficial effect on well-being.

In light of the issues discussed above, it is clear that it would be of interest for future research to analyse what effect a resilience training and development programme could have on preventing academic burnout, especially focusing on the well-being of university nursing students. Thus, interventions should be developed to improve students' emotional regulation skills when coping with adverse situations and stressful

aspects of the current organisational systems in higher education should be detected and mitigated where possible.

Finally, it is important to highlight that resilience promotion and development must be initiated during the educational process to promote health in this group (McCann et al., 2013; Rees et al., 2016). This will have an undeniable social importance soon, since resilience is an essential capacity required by nursing professionals and one which improves the quality of healthcare that they offer daily.

Author contributions

All authors have agreed on the final version and meet at least one of the following criteria [recommended by IC-MJC (http//:www.icmj.org/ethical_1author.html)]:

- substantial contributions to conception and design, acquisition of data, or analysis and interpretation of data
- drafting the article or revising it critically for important intellectual content

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Table 1. **Mean, Standard Deviations, Internal Consistence (Cronbach´s alpha), and correlations of the main variables of the study**

	Mean	*SD*	Cronbach´s alpha	1	2	3	4	5	6	7	8	9	10	11
Time 1														
1. Age	24.42	5.27	-	1										
2. Resilience	32.04	5.67	.83	.03	1									
3. Emotional exhaustion	2.43	1.11	.85	.11	-.33**	1								
4. Cynicism	1.67	1.19	.86	.02	-.16	.49**	1							
5. Efficacy	4.32	0.69	.76	-.04	.44**	-.16	-.19*	1						
6. Psychological well-being	11.07	5.04	.84	.09	-.52**	.56**	.43**	-.33**	1					
Time 2														
7. Resilience	34.86	4.53	.85	-.13	.66**	-.31**	-.14	.38**	-.43**	1				
8. Emotional exhaustion	2.40	1.36	.90	.25**	-.15	.38**	.30**	-.04	.28**	-.51**	1			
9. Cyinicism	1.45	1.14	.84	.01	.08	.17	.34**	-.13	.04	-.20*	.54**	1		

10. Efficacy	4.21	0.59	.83	-.02	.20*	-.08	-.09	.37**	-.16	.35**	-.10	-.14	1	
11. Psychological well-being	9.55	7.28	.89	.16	-.27**	.40**	.36**	-.14	.46**	-.50**	.49**	.24*	-.09	1

*p<.01; **p<.001

Table 2. Results of hierarchical regression analysis to study the longitudinal connections with psychological well-being at T2 as outcome variable

			Psychological well-being at T2	
Steps	Variables at T1	β	ΔR^2	$F_{(5,93)}$
1	Age and sex		.02	
2	Psychological well-being	.49	.23**	
3	Resilience	-.07	.00	
	Linear association		.22	6.67**
1	Age and sex		.04	
2	Psychological well-being	.50	.24**	
3	Emotional exhaustion	.22	.04*	
	Linear association		.28	8.70**
1	Age and sex		.04	
2	Psychological well-being	.50	.25**	
3	Cynicism	.13	.01	
	Linear association		.27	8.26**
1	Age and sex		.05	
2	Psychological well-being	.50	.24**	
3	Efficacy	.04	.00	
	Linear association		.25	7.62**

*p<.01; **p<.001

Table 3. Results of hierarchical regression analysis to examine the inverse associations

			Resilience at T2	
Steps	Variables at T1	β	ΔR^2	$F_{(5,96)}$
1	Age and sex		.02	
2	Resilience	.66	.25**	
3	Psychological well-being	-.09	.00	
	Linear association		.42	16.01**
			Emotional exhaustion at T2	
1	Age and sex		.08*	
2	Emotional exhaustion	.36	.13**	
3	Psychological well-being	.07	.00	
	Linear association		.18	5.33**
			Cynicism at T2	
1	Age and sex		.04	
2	Cynicism	.34	.11**	
3	Psychological well-being	-.10	.01	
	Linear association		.11	3.27**
			Efficacy at T2	
1	Age and sex		.02	
2	Efficacy	.40	.16**	
3	Psychological well-being	.00	.00	
	Linear association		.14	4.15**

*p<.01; **p<.001

Table 4. Analysis of hierarchical regression to analyze the global model with psychological well-being at T2 as outcome variable

			Psychological Well-being at T2	
Steps	Variables at T1 and T2	β	ΔR^2	$F_{(3,84)}$
1	Resilience at T2	-.46	.21**	
2	Emotional exhaustion at T1	.31	.09**	
3	Sex	.20	.04*	
	Linear association		.32	14.51**

*p<.01; **p<.001